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Research Communication

The moss genus *Regmatodon* Brid. (Regmatodontaceae) - new to the Eastern Ghats

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Abstract

Regmatodon orthostegius Mont. was earlier reported from Central India, the Himalaya, Northeast India and the Western Ghats in India. However, while collecting bryophytes from the Eastern Ghats, the authors came across a moss which was later identified as *Regmatodon orthostegius* which is a new distributional record for this genus as well. A detailed description with figure and photographic plates is provided.

Keywords: Eastern Ghats; *Regmatodon orthostegius*; Sherveroy Hills

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Introduction

Eakin (1) revised the moss genus *Regmatodon* Brid. on a world-wide basis and recognized only two valid species namely *R. declinatus* (Hook.) Brid. and *R. orthostegius* Mont. (2). *Regmatodon declinatus* is an Asian species whereas *R. orthostegius* is Pantropical and both the species occur in India (1, 3-5). However, only the latter has been reported from the Western Ghats in the Peninsula (1, 3-6). Surveys made on the bryoflora of Sherveroy Hills on the Eastern Ghats of Peninsular India led to the discovery of *Regmatodon orthostegius* which is a new record for the Eastern Ghats. Incidentally, the genus is an addition to the moss flora of the Eastern Ghats (7-9). A key is provided for an easy segregation of the two known species.

Key to the species

- 1a. Seta rough; endostome smooth ... ***R. declinatus***
1b. Seta smooth; endostome coarsely papillose
..... ***R. orthostegius***

Regmatodon orthostegius Mont., Ann. Sci. Nat., Bot. sér. 2, 17: 248. 1842; Foreau, J. Madras Univ. 3: 122. 1930 & J. Bombay Nat. Hist. Soc. 58: 37. 1961; Bruehl, Rec. Bot. Surv. India 13(1): 86. 1931; R.S. Chopra, Taxon. Indian Moss.: 413. 1975; Gangulee, Moss. E. India 3(7): 1563, f. 783. 1978; Vohra, Rec. Bot. Surv. India 23: 56. 1983; S.S. Kumar & Maniselvan, Res. Bull. Panjab Univ., New Ser., Sci. 44: 101. 1994; D.A. Eakin & B. Allen, Nova Hedwigia 69: 311. 1999; S. Kumar & D.K. Singh, Bull. Bot. Surv. India 44: 132. 2002; J. Lal, Checklist Indian

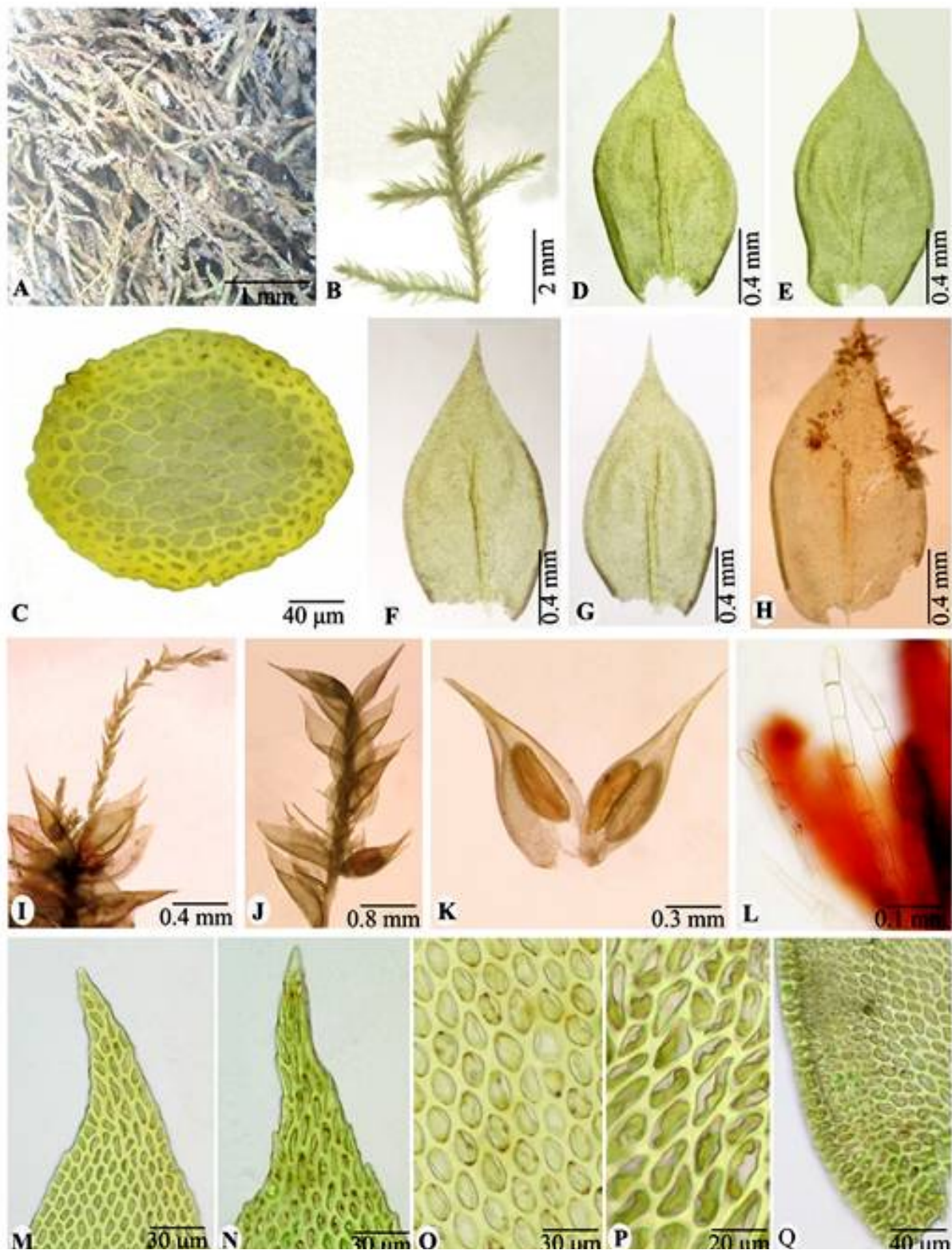


Fig 1. *Regmatodon orthostegius* Mont. **A.** Plants **B.** Portion of plant **C.** Cross section of stem **D-E.** Stem leaves **F-G.** Branch leaves **H.** Branch leaf with gemmae **I.** Gemmae growing into plantlets **J.** Perigonium **K.** Perigonal leaves with antheridia **L.** Paraphyses **M-N.** Leaf apical cells **O.** Leaf median cells **P.** Leaf basal cells **Q.** Leaf basal cells at margin

Moss.: 116. 2005; Manju & al., Trop. Bryol. Res. Rep. 7: 17. 2008; A.E.D. Daniels, Arch. Bryol. 65: 82. 2010; A.E.D. Daniels & al., Bryofl. Indira Gandhi Natl. Pk.: 269. 2018. - Type: India (Tamil Nadu), Nilgris, corticolous on a shrub, around Kaitie (Ketti), *Perrottet s.n.* (PC). *Anhymentum polycarpon* Griff., Calcutta J. Nat. Hist. 3: 275. 1843. *A. polysetum* Griff., Not. Pl. Asiat. 2: 472. 1849. *Regmatodon polycarpus* (Griff.) Mitt., J. Proc. Linn. Soc., Bot. 1 (Suppl.): 127. 1859; D.A. Eakin, Nova

Hedwigia 67: 144. 1998. *R. polysetus* (Griff.) Thér., Bull. Soc. Bot. Genève Sér. 2, 26: 88. 1936. (Fig. 1)

Plants caespitose, glossy, yellow-green. Main stems creeping, 2–3 cm long, 0.19–0.2 × 0.15–0.18 mm in cross section, ovate, with a central strand; cortex 3- or 4-layered; cells 6–16 × 4–8 mm, thick-walled; medullary ones 12–28 × 8–22 mm, thin-walled; branches pinnate. Leaves imbricate,

erectopatent, irregularly inrolled at margin; stem leaves $0.8-1.4 \times 0.3-0.8$ mm, ovate, concave, smooth at apical margin, apiculate; branch leaves $0.8-1 \times 0.3-0.5$ mm, ovate, concave, smooth or faintly toothed at apical margin, apiculate; cells irregularly elliptic-rectangular, smooth; apical cells $12-28 \times 4-8$ μm ; median ones $4-16 \times 3-8$ μm ; basal ones $8-28 \times 4-12$ μm , subrectangular to quadrate; extreme basal ones, $12-24 \times 10-16$ μm , more rectangular; costa single, more than half as long as leaf. Perigonia bud-like; perigonal leaves lanceolate, narrowing into a long, acuminate apex, $0.8-1 \times 0.4-0.6$ mm, inrolled and smooth at margin, concave, ecostate. Antheridia $0.4-0.6 \times 0.15-0.18$ mm, sausage-shaped, stalked; paraphyses $0.5-0.7 \times 0.012-0.014$ mm, filiform. Sporophyte not seen.

Habitat: Corticolous on *Artocarpus heterophyllus* Lam. (Moraceae), the jack tree, in degraded evergreen forests, ca 1400 m.

Distribution: Africa, North & South America, Bioko Island (Fernando Po), China, Madagascar (Malagasy), Papua New Guinea, South & Southeast Asia and India: Central India, Himalaya, Northeast India, Western Ghats (1, 3, 6) and Eastern Ghats of Tamil Nadu (Salem). Fairly common.

Specimens examined: Eastern Ghats: Tamil Nadu, Salem Dist., Sherover Hills, Yercaud, ca 1400 m, 10.08.2015, A.E.D. Daniels & P.M. Biju 960 p.p., 961 (SCCN).

Discussion

According to Eakin (1), *Regmatodon declinatus* is so closely allied to *R. orthostegius*, it is almost impossible to segregate the plants if they are collected in their vegetative phase as distinct morphological characters of the gametophore are hardly found. Nevertheless, the leaves of *R. declinatus* are distinctly longer and narrower than those of the latter and this character is found to be consistent. Based on this feature, the material to hand has been best identified as *R. orthostegius*.

Authors' contribution

AEDD - Collection, determination and preparation of the MS; PMB - Collection, dissection and help in determination; VA - Dissection and preparation of photographic plates.

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Conflict of interest

The authors declare that they have no competing interests

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